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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,722

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Dong-chul Kim

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CANTOR COLBURN, LLP
20 Church Street
22nd Floor
Hartford, CT 06103

EXAMINER

MULLIS, JEFFREY C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

05/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,722	Applicant(s) KIM ET AL.	
	Examiner Jeffrey C. Mullis	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5-30-06</u> . | 6) <input type="checkbox"/> Other: _____ |

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Claims 1-13 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The specification as filed indicates that the "acrylic rubber-modified copolymer" is actually the material recited at the last 4 lines of claim 1 and not a separate and distinct material as implied by claim 1 and those skilled in the art would therefore would question what is intended in claim 1.

It is not clear if the weight amounts in claims 1 and 7 of the core include the weight of the seed in that the core might be construed as encompassing the seed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Bertelo (US 7,015,282).

Patentees in example 10 disclose a core shell polymer with acrylate seed and core and polymethylmethacrylate shell in applicants' amounts.

Claims 1, 4-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima (US 5206299) in view of Gould (US 20040260005). Patentees disclose a core shell composition as in applicants claim 7 except that the amount of seed used is slightly higher than that of claim 7. Note Example 4 in this regard. The core shell polymer is combined with HIPS. Note column 11, lines 1-7 in this regard.

Gould discloses that 1-20% of seed may be used when forming core shell polymers (paragraphs 11 and 38) in order to control the final particle size (paragraph 65). It would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to use higher amounts of seed in the process of the primary reference (for instance 5-15% for embodiments of the claims using 100 parts total monomer) in the expectation that such would be workable or to adjust particles size (to a slightly smaller size) as taught by the secondary reference absent any showing of surprising or unexpected results

Claims 7, 10-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (US 4,916,171)..

Brown in example 10 discloses a core shell polymer containing 4.5 parts seed:69 parts core (excluding seed) and 18.7 parts shell i.e. 5:69:19 parts seed:core:shell to no decimal place as recited by the instant claims.

Claims 1-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US 6,403,683) in view of either Gould, cited above.

Patentees disclose a composition containing a component which includes a component "d" (column 9, lines 55-60) such as ABS or HIPS or AAS (column 11, lines 5-7) and which may include a component "f-1" (column 11, lines 63 et seq.). The component "f-1" may be a "graft copolymer 2" containing 60-90% of an acrylic ester core and methylmethacrylate shell at column 17, lines 12-46 and have applicants particles size.

The primary reference does not disclose any core shell polymers in which seed is used. However use of such as taught by Gould would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention in the expectation of adjusting particle size as taught by Gould absent any showing of surprising or unexpected results.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US 6,403,683) in view of either Bertelo or Gould, both cited above.

Patentees disclose a composition containing a component which includes a component "d" (column 9, lines 55-60) such as ABS or HIPS or AAS (column 11, lines 5-7) and which may include a component "f-1" (column 11, lines 63 et seq.). The component "f-1" may be a "graft copolymer 2" containing 60-90% of an acrylic ester

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core and methylmethacrylate shell at column 17, lines 12-46 and have applicants particles size.

The primary reference does not disclose any core shell polymers in which seed is used. However use of such as taught by Gould would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention in the expectation of adjusting particle size as taught by Gould absent any showing of surprising or unexpected results.

Use of the seed containing core shell polymer of Bertelo in the composition of Kobayashi would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention since Kobayashis' core shell encompasses that of Bertelo and motivated the presence of specific examples for producing acrylate core shell polymers in Bertelo such as are needed to practice the invention of Kobayashi and further motivated by Bertelos' disclosure that the impact strength of polycarbonates (such as are used by Kobayashi) may be improved by use of Bertelos' core shell modifiers absent any showing of surprising or unexpected results.

Any inquiry concerning this communication should be directed to Jeffrey C. Mullis at telephone number 571 272 1075.

Jeffrey C. Mullis
Primary Examiner
Art Unit 1796

JCM

5-5-08

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/Jeffrey C. Mullis/

Primary Examiner, Art Unit 1796